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**NATIONAL ADVISORY COUNCIL FOR ENVIRONMENTAL
POLICY AND TECHNOLOGY (NACEPT)**

REINVENTION CRITERIA COMMITTEE

FINAL REPORT AND RECOMMENDATIONS

INCENTIVES TO PROMOTE ENVIRONMENTAL STEWARDSHIP

December 1999

NOTICE

This report and set of recommendations have been written as part of the activities of the National Advisory Council for Environmental Policy and Technology (NACEPT), a public advisory committee providing extramural policy advice to the Environmental Protection Agency's Administrator and other officials of the EPA. The Council is structured to provide balanced and expert assessment of policy matters related to the effectiveness of the environmental programs of the United States. This report has not been reviewed for approval by the EPA and, hence, the contents of this report, and its recommendations, do not necessarily present the views and policies of the EPA, nor of other agencies in the Executive Branch of the federal government, nor does mention of trade names, companies, or commercial products constitute a recommendation or endorsement for use.

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SUMMARY RECOMMENDATIONS

EPA asked the Reinvention Criteria Committee to comment on opportunities for EPA to expand its use of incentives to promote environmental stewardship, focusing specifically on providing incentives to individuals, communities, industries, and states. This report is based on extensive input from representatives of all of these sectors as well as agency personnel.

The committee strongly supports EPA's efforts to more fully and effectively use incentives. In particular, the committee believes that incentives can be useful tools for promoting environmental improvement when used within the existing regulatory framework, as a complement to the regulatory system, and as a means of addressing unregulated environmental problems. Because incentives are essentially catalysts for behavior, they can and should include both positive and negative motivators. While both are important, innovation is most needed in the use of positive incentives and their relationship to the regulatory system.

The committee has developed detailed findings and recommendations pertaining to each of the four sectors it studied. Most of the sector-specific recommendations are expansions of one or more of the following five general recommendations, which summarize the committee's findings.

EPA should develop a comprehensive strategy for integrating incentives into its overall environmental protection mission. Such a strategy should:

- Address the interrelationships among incentives—There are a broad range of incentives including positive reward-based incentives, as well as more traditional enforcement-based incentives. An integrated strategy should combine these incentives in ways that reinforce one another, recognizing that they are inherently interdependent. In many instances, positive incentives would not be possible in the absence of the more traditional regulator system that is based upon negative incentives. EPA should review its various incentive programs with an eye toward identifying these relationships.
- Respond to the differing needs of EPA's various clients—EPA deals with a diversity of client groups, including individuals, communities, industries, nonprofit organizations, and state agencies. In addition, within these sectors, clients may respond quite differently to incentives, depending upon their values, capabilities, or priorities. An integrated strategy must target and combine incentives in ways that maximize their effectiveness with different clients.
- Fully integrate incentives into EPA's other environmental protection efforts—Incentives should not be viewed as independent or differentiated from the rest of EPA's programs. They should be designed as supplements to, rather than substitutes for, other efforts. When fully integrated into program goals and objectives in this way, incentives become

part of how EPA conducts its business and not isolated adjuncts.

EPA should differentiate among its clients who are eligible to receive positive incentives and those who are not. To make these determinations, EPA should develop criteria and procedures for fairly, efficiently, and accurately distinguishing among its clients. These criteria should ensure that:

- Leaders, early responders, or those willing to adopt environmental improvements beyond those required by regulations are rewarded and, in most cases, those who are reluctant to comply or late in complying are not
- Each type of client, including those with less-than-perfect compliance records, is offered the types of incentives that will be most effective and efficient in stimulating environmental improvement and/or improved accountability.
- Given that developing criteria necessary for this type of differentiation is very difficult, EPA should encourage experimental design by state agencies and other organizations, as well as undertaking such efforts on its own.

EPA should use a broad array of partners for delivering incentives such as trade associations, community groups, or news sources.

EPA deals with very few of its clients directly. In contrast, other existing organizations frequently have established a solid relationship of trust with client groups and can thus reach clients more efficiently and effectively. Rather than attempting to establish its own unique or new delivery systems for incentives, EPA should more fully utilize those that already exist. EPA should think of itself as a wholesaler rather than a retailer of incentives: encouraging and facilitating the use of incentives, but not directly providing them

EPA should take specific actions to engender public trust and agency accountability in the use of incentives.

Public confidence in environmental protection programs can be compromised if it appears that incentives weaken that system. This is particularly true of positive incentives that involve alternatives to traditional regulatory enforcement and compliance. However, the success of future efforts to employ more diverse and innovative incentives will rest, at least in part, on the public's trust that government is indeed protecting the health and welfare of the nation's citizens and natural resources. To maintain public trust, as new incentive programs are designed and implemented, EPA should:

- Include a rigorous evaluation component in association with each incentive-based progra

to demonstrate its effectiveness in promoting improved environmental quality and to maintain accountability for program results.

- Distinguish clearly between incentives that are in the design and development stage (including pilot studies) and those that are part of permanent ongoing programs. Programs that are experimental should have explicit evaluation plans and client feedback. Launching new ideas as full-blown programs without the benefit of a pilot phase can create confusion that undermines the public's confidence in the program and the agency as a whole.
- Provide for stakeholder involvement throughout the entire development and implementation process. If the use of incentives is supported by a diverse set of stakeholders, it is more likely that the public will be confident in their legitimacy.

EPA should acknowledge and challenge constraints on its ability to employ incentives.

Many incentive-based approaches are fully within EPA's authority. However, there may be limitations or barriers to pursuing some of the incentives that appear to hold promise. While some constraints may be statutory, many can be more subtle, coming in the form of internal agency cultural aversions to innovation, administrative barriers, or lack of understanding and knowledge. EPA should seek to eliminate self-imposed cultural and administrative constraints. In addition, EPA should engage Congress, when necessary, to encourage market-based and tax-based incentives in areas controlled by other parts of the federal government that affect environmental quality and to obtain the legislative authority for pilot incentive programs.

**National Advisory Council for Environmental Policy and Technology
Draft Final Report of the Reinvention Criteria Committee**

I. INTRODUCTION

The National Advisory Council for Environmental Policy and Technology (NACEPT) is a public advisory committee originally chartered on July 7, 1988. The Council provides advice and recommendations to the Administrator and other EPA officials on ways to improve the development and implementation of domestic and international environmental management policies and programs. The NACEPT membership includes senior-level officials and experts representing federal, state, and local government agencies and tribal organizations, business/industry, academia, environmental organizations, and NGOs. As principal constituents and stakeholders of EPA, these members provide advice and recommendations on policy issues/questions and serve as a sounding board for new strategies that the Agency is developing.

Reinvention at EPA is a broad-based initiative to make environmental and public health programs more efficient and effective. As described in EPA's 1998 Reinvention Strategic Framework, reinvention efforts have developed along two tracks. The first is innovating and streamlining within core EPA programs, such as regulations, permitting, and monitoring and reporting. The second is testing and applying more integrative, holistic approaches to environmental protection, such as sector-based environmental protection.

In 1998, EPA asked the NACEPT Reinvention Criteria Committee¹ to provide advice on how incentives can be used most successfully to inspire individuals, communities, industry, and states to improve their environmental performance. Traditionally, EPA has relied on regulatory approaches that primarily use negative incentives, such as penalties for failure to comply with environmental requirements. However, EPA is interested in exploring the ways positive incentives might be used effectively to complement its enforcement-based tools. In particular, EPA presented the following questions to the committee:

- What opportunities exist for EPA to use incentives to promote environmental stewardship in industry, states, communities, and the general public (i.e., what is needed to create an incentive structure that will drive continuous environmental improvement)?
- How can EPA evaluate the effectiveness of incentives to encourage environmental stewardship that leads to improved environmental results?

¹. Appendix A contains the list of Committee members.

- What can EPA do to ensure that incentives promote and enhance public confidence
- How can EPA measure the impact that incentives have on public confidence
- What criteria should be used to decide whether the use of incentives is appropriate?
- How can the concept of performance ladders be used to tailor incentives most effectively?

The committee held six meetings and structured its deliberations by focusing on the use of incentives in general and in four sectors: individuals, communities, industry, and states². Managers from EPA and other agencies and organizations offered information and perspectives on a variety of programs and experiences.³ As part of their presentations, they were asked to address the following questions:

- What incentive(s) does your program provide?
- What lessons have you learned that may be applicable to EPA? Describe more global considerations for EPA in its use of incentives.
- How can additional incentives be used by EPA?
- Under what different circumstances could new incentives be appropriate for EPA?
- How was the incentive(s) used in your program successful and why?
- What are the barriers to implementing incentives
- How are the incentives or tools in your program evaluated
- What is the public's reaction to your incentives

This report presents the committee's conclusions and recommendations concerning the potential uses of incentives. In general, the committee supports EPA's efforts to find ways to use incentives—particularly positive incentives—more effectively and creatively and believes that they can be useful tools for improving environmental quality. Incentives can: serve as tools within the existing regulatory framework; be used to complement the regulatory system; and offer a means of addressing environmental problems that are not amenable to conventional or traditional EPA regulatory approaches.

². Attachment B contains the schedule of Committee meetings.

³. Attachment C contains the list of presenters and topics.

II. GENERAL CONCLUSIONS AND RECOMMENDATIONS

A Diversity of Incentives

Incentives are often viewed as being positive inducements that are distinct from (and possibly in contrast to) the other activities. This perspective obscures the complex nature of incentives and may, as a result, lead to ineffective and conflicting policies. In fact, there are many different types of incentives that act in different ways and can have different effects on different clients.

EPA's current interest in developing more positive incentives—incentives that operate by rewarding entities if they take some action, rather than by punishing them if they do not—is commendable and appropriate. An over-reliance on negative incentives can erode EPA's ability to promote its role as a partner in environmental protection.

Developing a coherent incentive program that reinforces EPA's other environmental improvement efforts necessitates understanding of how different types of incentives operate. The committee developed the following four-part classification of incentive types in response to the presentations and discussions with EPA staff: enticing, enabling, coercing, and provoked incentives. This is not to suggest that EPA should attempt to rigorously classify its incentive programs accordingly; such an effort would most likely provide little benefit. However, this classification system may help EPA better understand which types of incentives are likely to be most effective in achieving its goals.

Enticing Incentives

Some types of incentives operate by enticing clients to undertake environmental protection efforts. In some cases, just providing information about the nature of a problem will motivate some clients to attempt to correct it. Public recognition programs provide enticements for some clients, and financial rewards can encourage individuals or communities to take action. Enticing incentives have the advantage of being purely positive—at least initially. However, they are usually relatively weak, and are most likely to affect the behavior of clients that are already reasonably motivated to take action.

Enticing incentives are most likely to be effective with early adopters or responders (clients who are already strongly motivated to improve environmental conditions), and least likely to be effective with recalcitrants (clients who are unwilling or unable to change their behavior). Much of the opposition to EPA's programs has come from recalcitrants. Substituting positive incentives for negative incentives may mute this opposition but is unlikely to motivate the recalcitrants to comply. The programs would be popular, but probably less effective. Social marketing research

suggests that some recalcitrants will never adopt effective innovations, and it is fruitless to attempt to use incentives to persuade them. Moderate to severe punishments (or coercive incentives) often are the only effective tools to persuade recalcitrants to act desirably.

Still others, often termed “late majority” are relatively uninfluenced by traditional incentives but are strongly influenced to adopt innovative behaviors by the simple knowledge that many others (e.g., so-called “early adopters” and “early majority”) have adopted the innovative behavior and are not at risk for being “one of the first.”

Enabling Incentives

Enabling incentives, such as cost sharing, help clients achieve a desired goal. Enabling incentives are often very popular because they help clients do what they already want to do. The challenge is to increase the number of clients who are motivated to take advantage of these incentives.

Information and technical assistance are very important enabling incentives. Positive and negative incentives will have no beneficial effect if clients do not know what they are supposed to do in response to them. Providing good information and technical assistance makes it much easier for clients to respond to the agency's requirements. The more information clients have, the more effective the other incentives are likely to be.

One example of an enabling incentive is a program that supplies households with free radon detectors. The program is effective when the household is already aware of the radon problem but does not know how to obtain a reliable radon tester or is unwilling to pay the testing costs. In such a situation, offering free detectors is an effective and popular way for both the agency and the individual to achieve their compatible goals.

Coercing Incentives

Coercing incentives are the “negative” incentives—legal requirements, enforcement actions, and financial (or criminal) penalties—that EPA has traditionally relied upon to implement environmental programs. Although coercing incentives are not the subject of this review, they often provide the motivation that stimulates clients to respond to other types of positive incentives and are, therefore, an essential component of any comprehensive incentive package.

Provoked Incentives

Every coercing incentive, and many positive incentives, can provoke other incentives (or opportunities for incentives). Provoked incentives are incentives that would not exist in the absence of the initial incentive program. Typically, negative incentives provoke potential positive incentives, and positive incentives provoke potential negative incentives.

For instance, because regulatory programs often impose onerous requirements, EPA has the opportunity to create a positive incentive by relaxing the requirements for selected clients. These provoked incentives are perceived as positive rewards for eligible clients eligible. Because EPA has traditionally depended extensively upon coercive incentives, such provoked incentives are likely to be the most plentiful incentives currently available to the agency.

The strength and number of these positive provoked incentives will depend upon the strength of the incentive that provokes them. Strong coercive incentives can create opportunities for strong positive provoked incentives. Conversely, weak coercive incentives have less power to provoke positive incentives. Thus, the more EPA relaxes its general regulatory requirements, the fewer of these positive provoked incentives will be available and the weaker they will be.

Positive incentives can provoke negative incentives in a similar manner. For instance, certification programs and many other positive incentive programs can immediately establish negative incentives—e.g., the threat that the benefit will be withdrawn. Withdrawing such benefits can be difficult. The more valuable the reward, the more difficult it is to remove. For instance, withdrawing a certificate necessary to conduct business (obviously a very powerful reward) can be extremely difficult.

Need for An Integrated Approach

It is important that EPA employ an integrated approach to its use of incentives. Not only should individual EPA offices be aware of incentives used in other parts of the Agency, but EPA should also implement its incentives with an eye toward how they are linked to one another and to other EPA efforts. There are several reasons why EPA should integrate its use of incentives with its core programs.

Given the diversity of clients EPA is dealing with, no one approach is likely to be successful for any of them, even within a client category. EPA should carefully combine and integrate its various tools in order to maximize influence on its clients, carefully considering how the various tools interact and how one tool can affect—positively or negatively—the effectiveness of the others for each client category.

EPA has relied too strongly on coercive incentives in the past and should be commended for its more recent efforts to promote the use of positive incentives. However, positive incentives usually cannot and should not be separated from negative incentives because, in most cases, the regulatory programs imposing negative incentives create the opportunity to establish positive incentives. The most common positive incentives are relaxation of regulatory requirements or threats that these regulatory programs have properly established (i.e., provoked incentives). Without the regulatory framework, there would be no onerous requirements and, therefore, nothing to be relaxed to generate a positive incentive.

The agency needs both positive and negative incentives. A program that operates only with positive incentives is as impoverished as—and probably much less effective than—one that relies only on negative incentives. Positive incentives may work well with one type of client but have no effect on recalcitrants, who may require an aggressive application of negative incentives to effect the desired action.

Positive incentives should be considered as a supplement to—not a substitute for—the other types of tools, such as negative incentives. EPA's challenge is to design systems that use the best tools for the particular types of situations it is dealing with, to enrich the tool kit, and make sure that the right tools for the right job for each client group are used. Just as one cannot build a house using only a hammer, using only a saw is also ineffective.

EPA should develop a coherent, long term, integrated incentives strategy when it initiates any environmental improvement program. This strategy should review the full range of incentives that could be used most effectively to promote the program, and should develop an integrated, self-reinforcing set of incentives that the agency proposes to implement to accomplish its goals. Such a strategy might begin with information about the nature of the problem and what individual clients can do to address it. These may be sufficient incentives to stimulate early adopters to take action.

These initial inducing incentives can be followed by enabling incentives and then, if necessary, by coercing incentives to stimulate recalcitrants to take action as well. Such a logical sequencing of incentives would have several advantages:

It would allow EPA to observe the effectiveness of the actions that the early adopters take, which should result in better, more informed rule making.

It would reduce the effectiveness of the opposition to the regulatory efforts both because the agency could point to clients that had already taken action and because these clients, particularly if they are in competition with more recalcitrant clients, would support regulator actions that create a level playing field for everyone.

And, it would truly reward clients who were early adopters and would likely result in reduced opposition to the full range of the agency's activities.

However, this sequence is exactly the opposite of what EPA usually adopts in two respects. First, the agency rarely develops and sets forth a long-term integrated strategy. Each action is taken independently with limited reference to previous actions and none to future ones. Second, the agency usually begins with the regulations and enforcement—the coercive incentives—and only later thinks about possible positive incentives that it might adopt. This typical approach is likely to generate the most opposition and result in the least-informed regulatory requirements.

A Diversity of Clients

EPA deals with a diversity of clients, including individuals, communities, industries, non-profit organizations, local governments, state regulatory agencies, and other governmental and non-governmental organizations. Different clients within the same category—for example, different companies in the same business sector—can have very different values, priorities, capabilities, and management styles, and will, therefore, react quite differently to a particular incentive. Thus, one incentive does not fit all clients.

Each client category is likely to contain some "early responders" or "early adopters," who will take the desired action once they have information about the nature of the problem and how to solve it. However, complex and burdensome regulatory programs may inhibit their taking positive action. These cooperative clients should be encouraged—and allowed the freedom—to proceed as efficiently and effectively as possible.

At the other extreme, "recalcitrants" are unlikely to respond to mild positive incentives and may need aggressive regulatory pressure. Nevertheless, some of the positive incentives EPA is considering may make them feel better about what EPA is forcing them to do.

Each category is likely to include some clients who are sophisticated in dealing with environmental issues and others who are technically naive. For instance, some firms and governmental agencies have a well-trained staff of environmental managers, and some individuals and communities have ready access to environmental management experts at academic institutions. Others do not.

Each category will include some clients who want to have complete flexibility in deciding how they should respond to the goals of the environmental improvement efforts. Others will want complete certainty that what they do will satisfy their obligations. Still others will want both complete certainty and complete flexibility.

For some clients, the required environmental improvements are relatively easy and inexpensive; for others they can be very difficult both technically and financially.

Not only do EPA's clients differ from one another; individual clients can change substantially over time. For example, a firm proud of its environmental leadership may choose a new CEO who is less motivated to pursue environmental goals than the previous leader. Or a company may be bought by another that has a culture of hesitancy or recalcitrance in dealing with environmental issues. Short-term financial pressures may cause a firm or governmental agency to decimate a well-functioning staff of environmental managers or to cut corners on managing their environmental risks. Local events may stimulate individuals and communities to develop a strong interest in environmental issues or may shift their attention to other issues.

The Challenge of Making Distinctions

A major challenge for EPA is to distinguish among the different types of clients and identify the types of incentives that will be most effective in stimulating environmental improvement for each. Since EPA personnel often have limited experience "in the shoes of" the client, it can mos

effectively identify the best-fitting incentives by putting this question to its clients directly, using such appropriate social science techniques as well-constituted focus groups.

The agency should also recognize that clients who are early adopters or who have other characteristics that would make them most susceptible to mild positive incentives are probably in full compliance already with environmental requirements. They may be ready to do better, but if EPA is most concerned with achieving compliance, incentives that would have been suitable for the leaders may be less effective in stimulating more recalcitrant clients. Because EPA must motivate the full range of individual clients within a client category—the leaders, the recalcitrants, and those in between—to improve their environmental performance through the appropriate array of positive and negative incentives, EPA needs to communicate with each of these groups.

Attempting to identify which incentives are most suitable for a client is particularly difficult for positive incentives that either ease the regulatory burden on the client or provide other rewards. EPA will normally want to provide these incentives to clients who can be trusted to respond to them positively. On the other hand, allowing recalcitrants or clients attempting to evade environmental improvement requirements to benefit from these incentives can seriously blunt the effectiveness of the incentive, undermine the credibility of the program, and (in another example of a provoked incentive) encourage clients who might normally be early adopters to delay their response the next time in order to take advantage of benefits that the agency might subsequently offer.

Because of the diversity of EPA's clients, it is very difficult for a government agency to develop a single set of criteria that will fairly, efficiently, and accurately distinguish among clients to identify those who are most appropriate for particular incentives. For example, if the number of potential clients is large, EPA will need to develop straightforward differentiating criteria that can be applied relatively easily, consistently, and efficiently. When there are only a few clients, such as state programs, EPA will need to determine how to handle those that are not judged worthy but may bring significant political pressure on the agency to allow them to benefit as well.

Finally, the more valuable the incentive, the more difficult it will be to clearly and objectively identify which particular clients should receive the benefits that the incentive provides. Since the stakes are much higher for the more valuable rewards or the more onerous penalties, the criteria for making distinctions are extremely important. It can be even more difficult to remove benefits from clients who were previously judged to be eligible but no longer deserve them.

One approach is to develop a series of sensitive, robust criteria that can be easily used to distinguish among cooperating and recalcitrant clients. However, as mentioned above, this is extremely difficult.

Another approach is to assign the classification function to an independent, respected, organization such as a nonprofit organization or outside panel of distinguished experts. While this approach may eliminate some of the pressures on the agency, it may also be resisted by EPA personnel and environmental groups who object to EPA's allowing outsiders to make decisions that they consider to be the agency's responsibility.

A third approach is to limit the rewards to clients who are willing to adopt environmental improvement initiatives beyond those that are required of other clients. This is the "beyond compliance" approach used in EPA's regulatory reform initiatives, such as Project XL and the Environmental Leadership programs.

It is also possible to entirely avoid setting definitive criteria for making distinctions. For example, many organizations offering enticing incentives make the decision about which clients receive them on the basis of an annual or other periodic competition. This allows the organization to select the best of the applicants and avoid the difficulty of establishing strict criteria separating the recipients from the other clients. The award also has an explicit or implicit temporal dimension—for example, the employee of the month. Any benefits associated with the reward are limited to this period. Such temporal awards can also be valuable in eliminating the need to remove the reward from clients who were formerly recognized but are now considered unworthy. Although temporal awards may diminish the willingness to make long-term investments, this drawback can be reduced if a client can earn the reward for consecutive years.

Many reward programs also operate on a comparative, rather than an absolute, basis. They do not attempt to determine who is good and who is bad, but only to identify a certain number who are better than the rest.

Finally, EPA might consider the perspective that many academics have about awarding grades: the importance of a grade is inversely proportional to the number of different grades that can be awarded. If the system is a pass/fail system, it is very important to the student which of these is awarded. If it is a numerical system, the student is likely to be much less concerned whether the grade is an 82 or an 86. Using this insight, the agency might consider a ladder of distinctions, with different levels of awards being associated with the different steps on the ladder, rather than a simple pass/fail approach.

None of these approaches to addressing the problems of making distinctions is perfect, but one or more of them may allow EPA to provide effective reward programs without undertaking the very difficult and contentious efforts that are otherwise likely to accompany such differentiation.

Marketing and Partnership Opportunities

EPA interacts with its clients in many different roles—for example, as a regulator, as a source of information, as a community assistance organization, and as a source of financial assistance. Each positive interaction provides an opportunity for the agency to stimulate additional positive interactions and further environmental improvements, while each negative interaction is likely to stimulate negativity.

However, because EPA seldom interacts with most of its clients directly, it needs to take advantage of each of the interactions to educate its clients about the agency's incentive programs. This is a common strategy in the business world. The initial customer or client contact is one of the most important and valuable opportunities that an organization has. If a business has a customer for one of its products, it will attempt to educate the customer about the advantages of using some of its other products to substantially improve the organization's "marketing" success.

As an example, the interaction most feared by clients is the enforcement action, which is inherently negative. EPA's Supplemental Environmental Projects (SEP) policy program is experimenting with opportunities to make this interaction more positive. The next step could be to encourage clients taking advantage of the SEP opportunity to explore other incentives. Perhaps it would make sense to make available a bundle of incentives at a "special price." Exactly how this would be done and what the most effective links are likely to be require further examination.

Like EPA, its clients operate in many different contexts. They market and provide goods and services to customers, negotiate with suppliers, compete and interact among themselves, communicate with the public, pay taxes, and deal with a host of government programs and agencies.

Very few of these contexts involve interactions with environmental regulatory agencies. However, each of them is an opportunity for exchanging and communicating information about the agency's incentive programs. Farmers, for instance, interact with their seed, pesticide, and fertilizer suppliers much more often than they interact with environmental regulators. They are likely to trust them more as well. Are there opportunities for EPA to use these interactions to promote its goals? Can the agency provide incentives to the suppliers that will carry through to the customers?

Agriculture provides similar examples on the opposite side. Poultry processing companies have very strong relationships with their suppliers. Can the agency provide these companies with incentives that they can pass through to the growers? If so, this is likely to be the most effective way the agency could offer incentives.

EPA should aggressively search out such partnership opportunities. Because EPA's interactions with its clients are usually infrequent, attempting to establish its own or new delivery systems will be inefficient, and these delivery systems will have limited effectiveness. Under the best of circumstances, it is very difficult to establish new relationships with clients. It is much more so when the clients are likely to have a background of fear and mistrust, as is frequently the case with respect to a regulatory agency. EPA should be aggressively searching out opportunities where it can leverage existing relationships to deliver its incentives more efficiently.

Associations, news sources, trade publications, and assistance organizations can provide potentially valuable partnerships as well. And there is no reason why EPA should limit itself to one partnership delivery mechanism for each group of clients. The more organizations that are delivering and reinforcing the same message, the better.

EPA programs might benefit significantly from good strategic thinking, carried out in consultation with client representatives. This would be a logical extension—and would perhaps provide a focus for—the type of integration recommended here.

Promoting Public Confidence

Promoting and obtaining public trust and confidence in EPA's efforts should be a high priority within the agency. An excessive emphasis on positive incentives may erode this confidence if the public begins to think the agency is "letting polluters off the hook."

EPA can help avoid such problems by continuing its strong emphasis on stakeholder involvement throughout the development and implementation of new incentive programs. If these processes include and are supported by stakeholders representing the full range of diverse interests with respect to the proposed initiative, the public is likely to be much more confident in their legitimacy. However, this is only one part of the challenge.

Stakeholder involvement is often seen primarily as a method of giving the public input into a process. But the public is also—and perhaps predominately—interested in the output: it wants to be confident that EPA is aggressively and effectively pursuing its goals to protect the environment.

Other factors contribute to public confidence. Some of these are that the agency and its staff must be viewed as:

Being reasonable. The public wants government agencies to consistently make reasonable decisions and treat clients reasonably.

Being firm, but fair. The agency should be viewed as treating like situations in a like

manner. Clients do not want to see their competitors get better deals.

Being professional. The public wants decisions made with the best information and in the most professional manner possible and wants relationships with clients and partners to be conducted professionally, without apparent personal vindictiveness or favoritism.

Being informed. The public expects the agency's representatives to be informed about what the entire agency is doing and how it contributes to environmental protection

Being consistent. The public wants to believe that the agency has a coherent, effective strategy for achieving its goals, and is consistently following that strategy. An organization that shifts its focus from one initiative to another may give the impression that it has no clear strategy for carrying out its responsibilities.

Public confidence can also be compromised if new ideas, such as incentives, are announced and pursued as fully developed programs before they have been carefully thought out, tested, and evaluated. To earn the public's confidence, EPA needs to clearly distinguish between programs or incentive initiatives that are in the exploratory stage and those that are part of its permanent, ongoing programs. Clearly designating a new undertaking as research should remove much of the opposition to it (much of which is based on suppositions about what problems might result from its full-scale implementation) both inside and outside the agency. It should also make the clients involved in the experiment more tolerant of what can be a slow and confusing process that is often inherent in pilot endeavors. All research efforts should also contain a detailed plan that includes frequent evaluation and client feedback.

Once a pilot program is considered ready to become an official EPA program, it should be clearly and carefully integrated into the agency's other programs. This will involve some strategic thinking: Under what circumstances does the program work best? When is it likely to be ineffective? How can it best complement other EPA incentives? When will it undermine them? To whom should it be available? Who should be excluded?

Once the strategy has been agreed upon, it must be consistently communicated throughout the agency to all staff interacting with the clients affected by the program. This communication and education element has been another consistent weakness within EPA.

And, of course, there should be a continuing process of client feedback and evaluation. What problems are arising? How could the program work more effectively or efficiently? What other partners might help in the program's delivery?

General Recommendations

EPA should develop a comprehensive strategy for integrating incentives into its overall environmental protection mission. Such a strategy should:

- Address the interrelationships among incentives—There are a broad range of incentives including positive reward-based incentives, as well as more traditional enforcement-based incentives. An integrated strategy should combine these incentives in ways that reinforce one another, recognizing that they are inherently interdependent. In many instances, positive incentives would not be possible in the absence of the more traditional regulator system that is based upon negative incentives. EPA should review its various incentive programs with an eye toward identifying these relationships.
- Respond to the differing needs of EPA's various clients—EPA deals with a diversity of client groups, including individuals, communities, industries, nonprofit organizations, and state agencies. In addition, within these sectors, clients may respond quite differently to incentives, depending upon their values, capabilities, or priorities. An integrated strategy must target and combine incentives in ways that maximize their effectiveness with different clients.
- Fully integrate incentives into EPA's other environmental protection efforts—Incentives should not be viewed as independent or differentiated from the rest of EPA's programs. They should be designed as supplements to, rather than substitutes for, other efforts. When fully integrated into program goals and objectives in this way, incentives become part of how EPA conducts its business and not isolated adjuncts.

EPA should differentiate among its clients who are eligible to receive positive incentives and those who are not. To make these determinations, EPA should develop criteria and procedures for fairly, efficiently, and accurately distinguishing among its clients. These criteria should ensure that:

- Leaders, early responders, or those willing to adopt environmental improvements beyond those required by regulations are rewarded and, in most cases, those who are reluctant to comply or late in complying are not
- Each type of client, including those with less-than-perfect compliance records, is offered the types of incentives that will be most effective and efficient in stimulating environmental improvement and/or improved accountability.
- Given that developing criteria necessary for this type of differentiation is very difficult, EPA should encourage experimental design by state agencies and other organizations, as well as undertaking such efforts on its own.

EPA should use a broad array of partners for delivering incentives such as trade

associations, community groups, or news sources.

EPA deals with very few of its clients directly. In contrast, other existing organizations frequently have established a solid relationship of trust with client groups and can thus reach clients more efficiently and effectively. Rather than attempting to establish its own unique or new delivery systems for incentives, EPA should more fully utilize those that already exist. EPA should think of itself as a wholesaler rather than a retailer of incentives: encouraging and facilitating the use of incentives, but not directly providing them

EPA should take specific actions to engender public trust and agency accountability in the use of incentives.

Public confidence in environmental protection programs can be compromised if it appears that incentives weaken that system. This is particularly true of positive incentives that may involve alternatives to traditional regulatory enforcement and compliance. However, the success of future efforts to employ more diverse and innovative incentives will rest, at least in part, on the public's trust that government is indeed protecting the health and welfare of the nation's citizens and natural resources. To maintain public trust, as new incentive programs are designed and implemented, EPA should:

- Include a rigorous evaluation component in association with each incentive-based program to demonstrate its effectiveness in promoting improved environmental quality and to maintain accountability for program results.
- Distinguish clearly between incentives that are in the design and development stage (including pilot studies) and those that are part of permanent ongoing programs. Programs that are experimental should have explicit evaluation plans and client feedback. Launching new ideas as full-blown programs without the benefit of a pilot phase can create confusion that undermines the public's confidence in the program and the agency as a whole.
- Provide for stakeholder involvement throughout the entire development and implementation process. If the use of incentives is supported by a diverse set of stakeholders, it is more likely that the public will be confident in their legitimacy.

EPA should acknowledge and challenge constraints on its ability to employ incentives.

Many incentive-based approaches are fully within EPA's authority. However, there may be limitations or barriers to pursuing some of the incentives that appear to hold promise. While some constraints may be statutory, many can be more subtle, coming in the form of internal agency cultural aversions to innovation, administrative barriers, or lack of understanding and knowledge. EPA should seek to eliminate self-imposed cultural and administrative

constraints. In addition, EPA should engage Congress, when necessary, to encourage market-based and tax-based incentives in areas controlled by other parts of the federal government that affect environmental quality and to obtain the legislative authority for pilot incentive programs.

IV. CONCLUSIONS AND RECOMMENDATIONS BY SECTOR

EPA has several opportunities for expanding its use of incentives to promote environmental stewardship. The following conclusions and recommendation focus specifically on providing incentives to individuals, communities, industries, and states, respectively, and are based on extensive input from representatives of all of these sectors as well EPA personnel.

Incentives for Individuals

Background:

To achieve maximum behavioral and environmental compliance with limited resources, environmental regulators have largely ignored the behaviors of individuals as private citizens, while applying restrictive regulatory controls over the behavior of individuals as owners and operators of businesses. This narrow focus has influenced individuals within work settings to cease from carrying out those behaviors that were most destructive to the environment and to explicitly undertake those behaviors prescribed by environmental regulators that protect the environment. As a result, this "command-and-control" strategy has brought about a decrease in the relative contribution of "point" sources of pollution to total pollution; however, the relative contributions of "nonpoint" sources of pollution from human actions as private citizens are increasing. Given that prescriptive and restrictive controls on individuals functioning as private citizens are not generally effective or broadly supported in a culture that values personal privacy and property rights, EPA will need to explore new roles for itself, using new tools and new partners.

Various factors influence the environmental behaviors of individuals (e.g., demographic characteristics and environmental values, the credibility of the messenger, and the availability of a stable partner to help make desired behavior changes). Working with others can help EPA identify effective "pathways" for offering incentives to individuals. For example, EPA has partnered with industries that manufacture and distribute household cleaning products to bring information to individuals in a new way. EPA has also been in the forefront of promoting community-based environmental protection.

But because EPA has little experience in relating to individuals as private citizens, new tools will be an important feature of strategies for influencing the behavior of individuals. The fields of behavior analysis, social marketing, and collaborative decision making are useful resources here, just as the fields of physical science and law were useful when the recommended strategy called for "commanding and controlling" the behaviors of individuals as business owners and operators.

Behavior Analysis: Key hallmarks of the behavior analytic approach include: (1) direct measurement of behavior through systematic observation and recording systems, and (2) functional analysis of the causes of behavior—that is, identifying crucial factors that motivate, prompt, and maintain the environmental behavior of interest (e.g., refraining from littering or

dumping used motor oil down the sewer). Behavioral analysis emphasizes using positive reinforcement to build and maintain desirable environmental behavior, rather than focusing only on decreasing undesirable environmental behavior. Learning more about the variables affecting the behavioral choices of consumers will help to ensure that incentives are made available by the right people, to the right people, at the right time, to maximize the likelihood that consumers will make environmentally protective choices. For example, focus group data from EPA's Consumer Labeling Initiative indicate that consumers look for certain information when purchasing a product, but different information when they are getting ready to use it.

Social Marketing: Social marketing is based on the principle that "Good ideas don't sell themselves!" Social marketing, which has its roots in sociology, education, public health, communication, marketing and geography, presents a set of integrated tools for "selling" good ideas leading to the adoption of new behaviors by individuals. For instance, information is most likely to positively influence the display of desired behaviors when it is accompanied by suggested action strategies.

Collaborative Decision Making: Within a collaborative decision-making model, parties acknowledge that preserving the relationship among the parties is more important than any single decision that the group makes and more important than any single interest or concern of the parties. A consensus approach is based on discussing and refining proposed actions until the concerns and interests of all parties are addressed and resolved. This approach attempts to move away from the traditional "positional" or "power-based" negotiations and toward identifying mutual interests of all parties, developing options for addressing these interests, and exiting the process with "win-win" outcomes.

Recommendations:

EPA should use incentives to help individuals make a better link between their behavior and environmental results. Specifically, EPA should:

- Identify one or two arenas (e.g., links between environmental behaviors and public health, drinking water sources, land resources, community quality of life, or environmental justice) where changes in individuals' behavior will result in measurable environmental improvement
- Conduct appropriate behavioral analyses that focus on identifying and making available incentives to influence desired behaviors, while also discovering and reducing the availability of incentives that may support undesired behaviors.
- Develop a social marketing plan designed to help individuals to strengthen the link between their behavior and environmental improvement.

- Identify, develop, and nurture productive partnerships with the business community, local governmental organizations, nongovernmental institutions, and community groups to shape and communicate environmental information, rather than relying solely on more traditional governmental means of disseminating information. Encourage these partners to work collaboratively with EPA in undertaking the above recommendations.

Incentives for Communities

Background

Environmental concerns are only one of many issues demanding communities' attention—e.g., building the tax base, employment, crime, housing, schools, health care, water supply, urban sprawl, and public transportation. For the following reasons, a promising avenue for making progress on environmental concerns lies in solutions that can help communities address those environmental concerns in tandem with other community issues.

First, many environmental problems arise from other pressures facing a community. For example, proposals for residential or industrial development may spur concerns about loss of habitat or lack of adequate drinking water or wastewater collection and treatment facilities. Alternative proposals that allow development while ameliorating environmental concerns can help a community achieve multiple goals.

Second, most community organizations and decision-making processes are not oriented around environmental issues. Using existing community structures, organizations, and processes to address environmental and other quality-of-life issues can be more efficient than trying to create new forums for discussion and decision-making and can link environmental solutions to other goals.

And finally, meaningful citizen involvement is key to effective environmental decision-making. More citizens will be involved, and will be involved more productively, if they believe they are helping to solve the key issues of concern to their community.

Despite the enormous potential of solving environmental problems at the local level by linking them to other community issues, it must be recognized that EPA cannot possibly be directly involved in most communities. Nor should it try to be. EPA can neither lead the process nor set the agenda for communities. Rather, neighborhood groups, regional organizations, and other institutions can serve as “bridge organizations.” Identifying these pathways to community decision making and problem solving holds great potential for EPA to “deliver” its expert services and support especially through programs like Community Based Environmental Protection (CBEP).

EPA's strength, in terms of solving community environmental problems, lies in information,

training, and technology. EPA can provide environmental assessment tools, mapping techniques, geographic information systems (GIS), risk assessment methodologies, environmental indicators, and other decision-making tools that can help communities understand and solve their environmental problems. For example, simple mapping or more complex GIS tools can help communities locate environmentally sensitive areas and potential threats, which in turn can help them develop a sense of priorities, set clear goals, and make informed, responsible environmental decisions. Or a community struggling with the impacts of continued development of greenfields may find information regarding the costs and benefits of development very helpful in addressing its growth and density decisions. In short, there is great potential for EPA to provide environmental information in ways that are meaningful to communities.

Recommendations:

EPA should develop and make available a broad range of incentives that help communities link solutions to their unique environmental problems with the achievement of their economic, quality-of-life, or other goals. Whether it is through CBEP projects or broad incentives affecting communities, EPA should take the following actions:

- Demonstrate a genuine commitment to local decision making in achieving improved environmental performance and results by focusing on community goals and achievements, avoiding imposing EPA's criteria for success on communities, making the decision-making process transparent to the public, implementing the decisions made in public processes, and developing strong cross-media capabilities for facilitating local environmental problem solving.
- Provide environmental information and analytical tools in ways that are meaningful to communities and supportive of local decision making.
- Respect the differences among communities' levels of environmental understanding and motivation for action by allowing them to identify and solve environmental problems in their own way, and at the same time ensuring that this flexibility does not perpetuate or exacerbate unacceptable environmental results.
- Promote and support "bridge" organizations that can serve as channels for environmental education and information. Such community-based organizations, regardless of whether their focus is on environmental issues, can be used by EPA to provide useful environmental data and tools. Thus, EPA should think of itself more as a wholesaler of incentives, than as a retailer.
- Train EPA personnel who deal with community-based environmental leaders in a variety of areas, such as how to identify and help empower those leaders.

- Provide seed money to communities to garner additional funding from other sources toward solving environmental problems.

Incentives for Industry

Background:

Understanding What Motivates Companies

Companies are in business to make a profit, and managers are hired to act in the best interest of shareholders. Effective incentive programs for industry not only recognize this fundamental fact, but use it as the basis for the incentive and its potential impacts on industry's financial and long-term goals. For example, performance-based structures encourage firms to unleash creativity and seek the most efficient means possible to meet their environmental obligations. In contrast, bureaucratic red tape typically slows innovation and adds transaction costs.

In many cases, pollution prevention can be the most cost-effective and environmentally beneficial strategy. Technology-based approaches may actually create larger environmental footprints due to increases in energy consumption and transfers of pollution from one medium to another (e.g., from air to water to solid waste). Reducing the uncertainties and risks associated with good environmental performance can serve as an incentive.

Some business managers, especially in small businesses, lack the basic information they need to make rational business decisions that also improve environmental performance. Others need a low-cost, confidential source of information on compliance strategies and alternatives.

Most business leaders desire to "do the right thing" and to earn a deserved reputation for good works. "Soft" incentives, such as environmental awards and public recognition programs that acknowledge the value of public image and corporate reputation, can be particularly effective and can help regulators and the regulated community to be more cognizant of the importance of environmental, economic, and social responsibilities. Providing accurate and objective information to the public that clearly identifies which firms are lagging on environmental issues can motivate recalcitrants to behave more responsibly.

Given that different firms in an industry have varying interests in incentives, companies are the best source of information regarding which incentives are meaningful and will encourage improved environmental performance. This information will enable EPA to tailor incentives for different industry sectors and to develop criteria "menus" for tiered incentive structures. Some incentives can be designed to achieve specific targets, and other, bigger incentives can deliver

bigger improvements. While most companies will benefit from incentives to become better performers, it should be recognized that others may need help developing strategies to actually exit the marketplace.

Working in Partnership

Certain outside stakeholders (e.g., states, trade associations, and professional groups) may be more trusted by industry than EPA and thus better positioned to deliver incentives to a given industrial sector. In addition, many states and other stakeholder groups have developed good working relationships with industry

Leveraging partnerships aimed at developing and implementing incentive programs could reduce EPA's workload. Industry leaders with strong environmental performance records, especially companies that can also demonstrate financial gains from environmental improvements, can be credible marketing tools. The Occupational Safety and Health Administration's STAR program may serve as a good model in this regard.

Suppliers and customers can also effectively deliver incentives. Suppliers can communicate to customers their "product stewardship" standards, and customers can require that suppliers meet standards of environmental performance (i.e., ISO 14001) or third-party certification.

In addition, incentive programs can be enhanced through the joint EPA/industry development of market-based tools and technologies that improve environmental performance while adding value to the financial bottom line.

Recommendations:

EPA should:

- Pursue positive incentives to encourage all industry sectors to voluntarily improve environmental performance. Such incentives should be based on an understanding of the economics, the competitive market realities, the changes taking place, and the culture and diversity of each sector.
- Work with industry and other stakeholders to establish a base of support for its own incentive programs, as well as to encourage trade and professional organizations to also offer incentives, where doing so will produce environmental improvements faster, more efficiently, or less costly than EPA can alone provide.
- Use incentive pilot programs that involve simple processes and reasonable transaction costs to demonstrate the potential for improved environmental performance and reduced

costs. The agency should then commit to turning successful pilots into full-scale incentive programs.

- Work to eliminate self-imposed bureaucratic constraints on incentive-based programs. When necessary, EPA should engage Congress to obtain the legislative authority to fully implement successful pilot programs and to encourage new non-EPA platforms for market- and tax-based incentives. Recognize the high value of certainty and predictability in the regulatory process.

Incentives for States

Background:

Perhaps EPA's greatest political and managerial challenge is dealing with all 50 individual states to provide adequate environmental protection for all US. citizens, while also maintaining a relatively level playing field for businesses and industries. States implement most of EPA's programs, and they do so with varying degrees of commitment and creativity. EPA can and should use a variety of incentives to reward the most effective state programs and to encourage improvements among the least effective.

Most of EPA's programs are implemented by states. For example and according to the Georgia DEP, three quarters of all federal environmental programs which are eligible for delegation to states, have been delegated. Most of all environmental data held by EPA is generated by states. The majority of environmental inspections and enforcement are performed by the states.

Although states implement most of EPA's programs, they do so with varying degrees of commitment and creativity. Most states are highly motivated to be environmental stewards. However, the states readily agree that they can do more and that incentives from EPA would make a difference. Improvements are possible not only within delegated programs, but also by going beyond federal standards and by enhancing state environmental programs outside the scope of federal statute. EPA can and should use a variety of incentives to reward the most effective state programs and to encourage improvements among the least effective.

The Performance-Partnership System

In 1995, EPA and representatives of the states signed an agreement creating the National Environmental Performance Partnership System (NEPPS), which is a new approach to negotiate state and federal responsibilities based on environmental performance. The states and EPA created NEPPS as a framework for changing the incentive structure that had been in place for the preceding 25 years. Specifically, EPA and the states can use the performance partnership framework to:

- Enhance environmental protection,
- Foster innovation in environmental management approaches, and
- Enhance the states' ability to identify and address local, regional, and interstate environmental problems.

The relatively strong performance of most states is a testament to the effectiveness of the incentives EPA and Congress had deployed since the creation of EPA to build state regulator programs; i.e., money to fund state programs, tightly prescribed work agreements, federal overfiling of state enforcement actions, and the threat of taking back state programs that failed to meet federal standards. Those incentives worked, but they resulted in an overly rigid, expensive, and frustrating system that did little to encourage program innovations at the state or EPA regional office level.

The NEPPS agreement called on EPA and the states to develop several programs and systems that are not yet fully in place, including a system of differential oversight based on states' environmental performance. States able to demonstrate their leadership in environmental programs would be rewarded with far less oversight from EPA and, hence, find greater flexibility in how they use federal funds and achieve national environmental goals. In theory, states would use that flexibility to implement new types of regulatory programs, such as experiments with performance ladders and facility-performance agreements in Oregon and Wisconsin.

EPA and the states have not yet achieved these ambitions. The process of developing the performance measures has proved to be technically and politically challenging, and neither EPA nor the states have found the political will to make distinctions among states on the basis of their environmental performance. At present, NEPPS is in danger of sinking under its own weight; many states perceive it as requiring more work and providing far too few benefits to help the overcome their own internal resistance to change.

Despite these challenges, a performance-partnership system still appears to hold great promise for improving the federal/state relationship and encouraging the lagging states to improve their environmental performance. State negotiations with EPA's regional offices can also become one of the principal vehicles for addressing interstate environmental problems. Achieving the full potential of the partnership will require a renewed level of commitment from EPA and the states, and will probably require innovations and risk-taking, one state at a time.

Arguably, the best way to encourage lagging states to strengthen their environmental performance will be to demonstrate that there are real political and economic advantages to being a high-performing state. For example, rewarding high-performing states with increased flexibility and reduced oversight will lead some states to develop and test more effective and efficient ways to improve the environment. Efficiency gains should translate into a stronger economy within

those states, which should be an incentive for lagging states to adopt similar environmental management approaches.

Interstate Organizations

In some parts of the country, interstate organizations have been formed to address regional environmental issues on a watershed or air-shed basis. Some of these organizations are based on interstate or federal-interstate compacts, while others are less formal alliances. These institutions can offer an excellent means of dealing with trans-boundary issues, such as water quality, which require coordination among two or more states and are thus of federal interest as well.

Recommendations

The most important step EPA could take over the next two years in developing incentives for state innovation and improvement would be to make progress on the original goals of the performance partnership agreement. Specifically,

- EPA and the states should fully develop and use a performance-measurement system that will help them identify high-performing states or state programs. To bring credibility and energy to the performance partnership, EPA should start by making a strong and clear commitment to reward high-performing states with increased flexibility and reduced oversight
- EPA should also support the use and formation of interstate organizations to help states address regional trans-boundary environmental issues. Incentives might include financial support for the operation of such institutions and recognition of their use as a means of fulfilling states' responsibilities under NEPPS.
- EPA should also consider other opportunities for incentives that the states have indicated would be helpful, including more meaningful involvement in the development of EPA regulations, public support and praise for the accomplishments of high-performing states, and increased funding to support state administration of federal environmental programs.

ATTACHMENT A

Reinvention Criteria Committee Members

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Weyerhaeuser
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Dr. Joseph Sullivan

Professor

Department of Chemical Engineering

Virginia Polytechnic Institute & State Univ.

Blacksburg, Virginia

ATTACHMENT B

SCHEDULE OF COMMITTEE MEETINGS

Dates & Location

April 21 - 22, 1998	-	Arlington, Virginia
July 7 - 8, 1998	-	Washington, D.C.
September 28 - 29, 1998	-	Washington, D.C.
December 8 - 9, 1998	-	Alexandria, Virginia
March 15 - 16, 1999	-	Alexandria Virginia
June 28 - 29, 1999	-	Washington, D.C.

ATTACHMENT C

Presenter and Topics

July 7 - 8, 1998 - Use of Incentives in General

Mr. Paul Burnet - "Incentives in Environmental Management"
Oregon Department of Environmental Quality

Mr. Mike McCloskey - "Thoughts on the Idea of Incentives in EPA Programs"
Sierra Club

Ms. Karen Florini - "The EDF Chemical Scorecard"
Environmental Defense Fund

Ms. Cathy Oliver - "OSHA's Voluntary Protection Program"
Occupational Safety and Health Administration, Department of Labor

Mr. Chris Warshaw - "Opportunities to Use Incentives - GEMI"
Putnam, Hayes, & Bartlett

September 28 -29, 1998 - Incentives for Individuals and Communities

Ms. Ginger Keho - "Environmental Education"
EPA, Office of Environmental Education

Ms. Julie Winters - "Environmental Product Labeling"
EPA, Pollution Prevention Division

Mr. Otto Graf - Product Take-Back Efforts
Embassy of Germany

Mr. Alan Krupnick - "Mobile Sources Air Pollution"
Resources for the Future

Ms. Deb Martin - "Comparative Risk Project & Other EPA Community Efforts"
EPA, Office of Sustainable Ecosystems and Communities

Ms. Megan Gallagher - "Economic/Environmental Development Planning"
The Nature Conservancy

Mr. Lawrence Molloy - "Community Planning"
Washington Conservation Voters (Seattle, WA)

Mr. Charlie Lord - "Urban Community/Environmental Justice"
Watershed Institute

Presenter and Topics (continued)

December 8 - 9, 1998 - Incentives for Industry

Mr. Jim Ketcham-Colwill - "EPA Office of Air Program Incentives"
EPA, Office of Air and Radiation

Dr. Richard Ellis - "Research on Environmental Costs and Incentives"
Inland Paper & Packaging

Ms. Carol Ann Siciliano - "Incentives in the Pulp and Paper Cluster Rulemaking"
EPA, Office of the General Counsel

Ms. Cindi Lewis - "Product Stewardship"
Beveridge and Diamond, P.C.

"Third Party Certification"
Mr. John DeVillars, EPA, Region I
Mr. Ray Lizotte, Texas Instruments

Mr. Bob Benson - "CSI Metal Finishing - Lessons Learned"
EPA, Office of Policy

Mr. Ben Cooper and Ms. Carol Andress - "Great Printers' Program"
Printing Industries of America, Environmental Defense Fund, respectively

Mr. Gary Risner - "Lessons Learned from Project XL"
Weyerhaeuser

March 15 - 16, 1999 - Incentives for States

"EPA Perspectives: National Performance Partnership System"
Mr. Chuck Kent, EPA, Office of State & Local Relations
Mr. Kerry Clough, EPA, Region 8

"State Perspectives Panel"
Mr. Bob Zimmerman, DE Department of Natural Resources & Environmental Control
Ms. Lynda Wiese, WI Department of Natural Resources
Mr. John Spinello, NJ Department of Environmental Protection

"How States Work Together"
Mr. Bill Becker, State & Territorial Air Pollution Program Administrators/Assn. of Local Air Pollution
Control Officers
Mr. Jeff Featherstone, DE River Basin Commission

Mr. Chris Miller - "Public Interest Perspective on EPA and State Incentives"

Piedmont Environmental Council